

ALTERNARIA LEAF SPOT OF THUNBERGIA

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Thunbergia Retz., commonly known as clock-vine or black-eyed-susan-vine, is a plant genus comprised of flowering annuals and evergreen perennials most of which have a climbing, twining habit. Some species are grown as shrubs. *Thunbergia* spp. are native to Africa and the warmer portions of Asia and number over 100 species. They are used in the southern United States and tropics to cover arbors, trellises and porches. In northern climates they are grown under glass (3) and outdoors as annuals.

According to Florida records, *Thunbergia* spp. have relatively few disease problems. Most of these disease reports consist of leaf spots caused by a few fungal pathogens and other fungi which may be of secondary importance. *Alternaria* Nees ex Fr.; Nees (2) is a fungal genus commonly associated with leaf spots on a myriad of host plants and over the years has been reported with increasing frequency on *Thunbergia* spp., most notably, *Thunbergia alata* Bojer (1).

SYMPTOMS: Foliar symptoms of *Alternaria* leaf spot begin as small dark circular lesions which can expand greatly and produce an irregular margin (Fig. 1A). The center portion of the leaf spot becomes tan and papery and the surrounding dark brown, necrotic tissue may develop a watersoaked appearance. Most leaf spots also exhibit a thin, darkly pigmented border. Splits, cracks and shot-holes may develop in the center of older dried lesions. These leaf spots also have a tendency to track and expand along veins, which can give the Collar lesions a rather angular appearance.

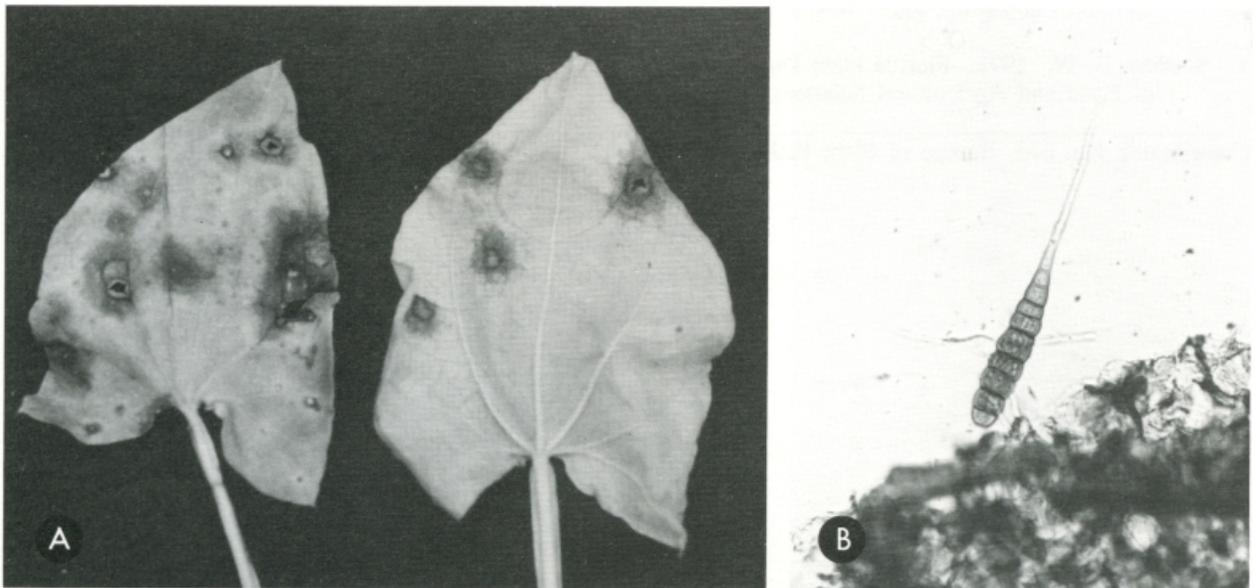


Figure 1. A) Typical *Alternaria* leaf spots on upper (left) and lower (right) leaf surface. B) Characteristic *Alternaria* spore showing dictyosporous habit and long apical beak.

CAUSAL AGENT: The *Alternaria* species associated with *Thunbergia* leaf spot sporulates readily on infected tissues. Spores or conidia are produced on relatively short conidiophores (70-90 microns x 5-6 microns) which may be solitary or develop in small groups of 2 to 3. Conidia are borne singly on conidiophores. The *Alternaria* spores are characteristically dictyosporous and produce a very long beak (125-175 microns) which tends to measure at least twice the length of the main spore body (70-80 microns x 17-18 microns) (Fig. 2B).

Total length of conidia measures 175-250 microns. Conidia are lightly pigmented when initially produced and mature to a reddish-golden brown and develop several longitudinal septa throughout the main spore body. This *Alternaria* may be an undescribed species which is restricted to *Thunbergia* and perhaps close relatives in the Acanthaceae.

CONTROL: *Alternaria* leaf spot of *Thunbergia* may be controlled by a combination of cultural and chemical measures. Infected foliage which has abscised should be collected and destroyed to reduce fungal inoculum. Moisture on foliage should be kept to a minimum. In containerized nursery situations, plants should be spaced to allow maximum air flow in order to quicken evaporation of moisture from susceptible or infected leaves. For appropriate chemical control measures, consult the Florida Plant Disease Control Guide (4).

SURVEY & DETECTION: *Alternaria* leaf spots on *Thunbergia* spp. appear irregular or angular in outline with necrosis expanding along veins. Lesions may be watersoaked and usually have a tan, bleached center and a darker border surrounding the necrotic perimeter of the leaf spots. When viewed through a handlens, the fungus may appear as a dark brown velvety fuzz within foliar lesions and may sporulate on both upper and lower leaf surfaces.

LITERATURE CITED

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